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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,795	03/18/2004	Jae-Gi Moon	P69554US0	5072

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EXAMINER

EINSMANN, MARGARET V

ART UNIT PAPER NUMBER

1751

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/802,795	MOON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Margaret Einsmann	1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grieve in view of SU 205991 and Abe et al , US 4,839,168.

Grieve, published in 1931, discloses that hops is a main constituent of beer and that leaves and flour heads of hops have been used to produce a fine brown dye. See page 411 second column line 11. The reference does not give details of an extraction procedure as claimed.

Abe et al disclose a process of extraction of plants including hops (col 1 line 64) which comprises using known extraction techniques which include heating and using polar solvents including water as claimed. The extract may be dried before use as claimed. See col 2 lines 8-38.

The Soviet patent teaches a process of extracting a wine dye from the extract of grape pressings (wine sludge), drying and using the dry wine dye. See first paragraph. Wine is an alcoholic beverage which is made by fermentation of a vegetable product, grapes. In an analogous way, beer is made from the fermentation of another vegetable product, hops. The waste from this process is termed beer sludge.

Applicant claims manufacturing natural dyes from beer sludge. Since beer sludge comprises hops and hops is a known supplier of a natural brown dye (see Grieve), it would have been obvious to the man having skill in the art to separate the dye from the sludge by a known plant extraction process as taught by Abe et al. in order to obtain the known natural brown dye. It would have been additionally obvious because the Soviet patent teaches a similar process for the use of wine sludge.

Claim 5 is rejected under 35 U.S.C. 102(b) as being anticipated by Grieve. Grieve, published in 1931, discloses that hops is a main constituent of beer and that leaves and flour heads of hops have been used to produce a fine brown dye. See page 411 second column line 11. The dye as claimed in claim 5 which is produced from beer sludge is the same fine brown dye which has long been extracted from hops.

Claims 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamatsu et al., US 5,221,289 in view of Grieve.

Miyamatsu teaches dyeing with plant derived coloring materials, and that a great number of natural colors are of vegetable origin. See col 1 lines 12 e seq. They disclose one process wherein shiitake mushroom is boiled to extract a color principal, a fabric is dyed with the extract, and the color is developed using a mordant. See paragraph bridging col 1-2. He further states that said process is unique only in that an uncommon type of coloring material is used. In other words, extracting the color principal from vegetable matter, dyeing fabric with said extract, and mordanting, is the common way to dye fabric with herbal or vegetable extract, and that mordanting is also done with synthetic dyestuffs. He states, "Unless a dyeing method leads to a new function, it is not different from dyeing with synthetic dyestuff." Col 2 lines 50-55.

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Miyamatsu further teaches that in his inventive process, he mordants with aluminum salts before dyeing. He also states that mordants other than aluminum have been used in herbal dyeing; naming in particular iron salts, copper salts, tin salts and chromium salts. See col 4 lines 17-56. Although Miyamatsu teaches many of the conventional steps in herbal (vegetable or natural) dyeing and lists many species of plants from which coloring matter has been extracted, they do not mention hops.

Grieve is applied for the statement on page 411 col 2 lin1 11 that a brown dye has long been extracted from hops.

It would have been obvious to the man having skill in the art at the time the invention was made to extract the known brown dye from beer sludge, and use said dye in a conventional dyeing process of dipping the fiber product into the natural dye and mordanting. Regarding applicant's step of adjusting the pH, the pH is always adjusted in a dyeing process taking into account the pH needed to dye on the particular fabric. The range of pH 3-9 claimed in claim 7 covers both the acidic and the basic range, and the particular acid and base mentioned are a common strong base and common strong acid, which will function to make the dyebath either more basic or more acidic. Any chemist knows that is so, and accordingly it is not inventive to use a common acid or common base to adjust pH. Regarding the limitations of claims 8-10, Miyamatsu et al. teach that mordanting has been done before (Col 2 first paragraph) and after (

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1-5,7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. What is the meaning of the terms "electrolysis reduction water" and "electrolysis oxidation water"? Are they not water, (H<sub>2</sub>O)? If so the terms in the group are redundant. Also applicant is requested to use the term "selected from the group consisting of" if he is using Markush terminology.

It appears that the limitations of claim 7 do not properly limit the dipping method of claim 7 since if the process is to be performed for 60 minutes at a water ratio of 1:40 at or about boiling applicant is using a conventional immersion or exhaust dyeing method. One hardly "dips" for 60 minutes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret Einsmann whose telephone number is 571-272-1314. The examiner can normally be reached on 7:00 AM -4:30 PM M-W and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11/28/05



Margaret Einsmann  
Primary Examiner  
Art Unit 1751